Purpura

- **Definition:**

  Discoloration of skin and mucous membrane, due to extravasation of RBCs.

  It appears as:

  1) Petechiae: purpuric small macule or papule ↓ 3m.
  2) Ecchymoses (bruises): purpuric patches or plaque due to larger extravasation of blood.

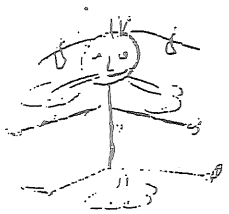
- **Classification:**

Intravascular causes	Vascular causes	Extravascular causes
I. **Decreased platelets (Thrombocytopenia):** 1) Radiation malignancy or splenomegaly. 2) Increased destruction: - ITP. - TTP. - DIC. - Platelet consumption in splenomegaly or hemangiomas. II. **Normal platelet (Thrombopathy):** Congenital or acquired e.g. lupus, anticoagulants. III. **High platelet (Thrombocythemia):** e.g. carcinoma.	I. **Inflammatory (vasculitis):** 1) Leukocytoclastic. 2) Lymphocytic. 3) Bact. Vasculitis. II. **Cryoglobulinemias.** III. **Tumor emboli or fat emboli.**	1) Purpura simplex. 2) Purpura senelis. 3) Trauma. 4) Toxins e.g. venoms. 5) Connective tissue disease e.g. amyloidosis. 6) Autoerythrocyte sensitivity syndrome.

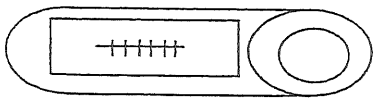
Intravascular causes

- Normal platelet count = 150.000-400.000/cm^3.
- Thrombocytopenia below 50.000 of normally functioning platelets → hemorrhage.

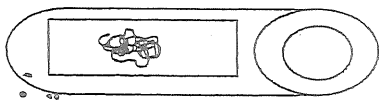
1. **Idiopathic thrombocytopenic purpura (ITP):**



   - **C.P:**
     - Petechiae and ecchymoses in the skin and mm.
     - Hemorrhage from nose, mouth or uterus.
   - **Pathogenesis:**
     - It is an autoimmune disorder result from a circulating antiplatelet factor (7S type of Ig) → platelet clumping and accelerates platelet destruction by macrophages especially in the spleen.
   - **Treatment:**
     - Corticosteroids.
     - Azathioprine.
     - Splenectomy.
2. **Thrombotic thrombocytopenic purpura (TTP):**
   - **C.P:**
     - Petechiae and ecchymoses in the skin and mm.
     - Hemolytic anemia with jaundice, renal manifestations, fever, hemoptysis & neurological signs (encephalopathy).
   - **Pathogenesis:**



Vascular endothelial injury



Platelet aggregation

   - **Treatment:**
     - Corticosteroid in large dose.
     - Splenectomy.
     - Plasma exchange.

[III] disseminated intravascular coagulation (purpura fulminans) :

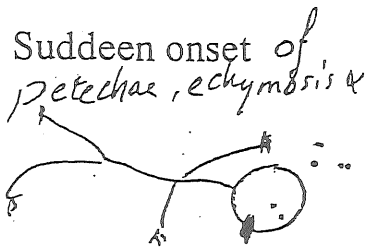
- **Clinical picture of DIC** varing from sever and rapidly fatal disorder to relatively minor disorder.

- **Aetiology :**
  - Sever infection : G-ve septicemia.
  - Snake bite.
- **Pathogenesis**
  - The 1ry defect is sever deficiency of protein C that has anticoagulant and profibrinolytic activities → disseminated intravascular coagulation → Depletion of platelet, fibrinogen and other a coagulation factors (consumption coagulopathy).

Clinically :

DIC

In sever cases	**In mild cases**
- Suddeen onset of Petechae, echymosis & Hge.	- Petechae & echymosis Haemorrhagic papules Haemorrhagic bullae

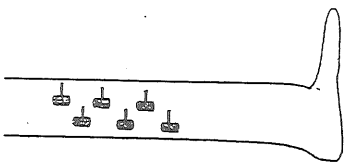


Death within 2-3 days

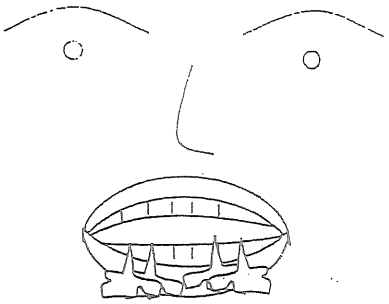
- **Treatment :**
  - Treatment of the cause.
  - Heparin.
  - ttt of shock.

Extravascular causes

1. **Purpura simplex:**
   - Occur in healthy women: about time of menses.
   - C.P: area of petechiae and ecchymoses on the thigh.
2. **Senile purpura:**
   - Causes:
     - Prolonged topical fluorinated steroid.
     - Steroid injection.
   - C.P: areas of petechiae and ecchymoses on the dorsa of both hands and forearm.
3. **Scurvy (ascorbic acid ↓↓):**



Perifollicular petechiae.



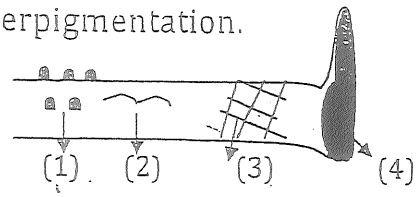
Bleeding and friable gum occur on long standing cases.

4. **Autoerythrocyte sensitization syndrome (painful bruising syndrome):**
   - Allergic sensitivity to EBCs.
   - Recurrent attacks of red raised, tender painful ecchymoses.

Vascular causes

1. *Cutaneous vasculitis (Leukocytoclastic vasculitis, Necrotizing vasculitis, Hypersensitivity vasculitis):*

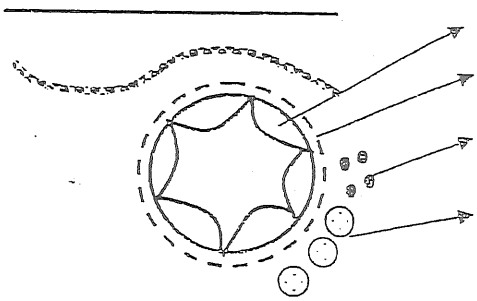
- **Definition:** it is characterized clinically by:
  a. Purpuric papules (palpable purpura).
  b. Urticarial wheals.
  c. Necrotizing lesions and histopathological by neutrophilic infiltrate showing fragmentation of their nucleus (nuclear dust) + fibrinoid changes in the small dermal vessels + systemic affection may occur e.g. (renal involvement, arthritis, dyspnea, melena, abdominal pain & fever).
- Clinically:
  - Skin lesions:
    1) The commonest lesion is recurrent episode of palpable purpura that last for 1-4 wks, on healing → hyperpigmentation.
    2) Itchy wheals.
    3) Livedo reticularis.
    4) Gangrene may occur.



  - Systemic affection:
    1) Fever.
    2) Dyspnea.
    3) Arthritis.
    4) Renal involvement.
    5) Abdominal pain

} Systemic manifestation are more common In Henoch-Schönlein purpura.

- **Histopathology:**



- Endothelial cell
- Fibrinoid degeneration in the BV
- Extravasation of RBCs.
- Neutrophilic infiltrate showing fragmentation of their nuclei (nuclear dust)

[Leukocytoclastic or kayorrhexis]

- **Pathogenesis:**

  Type III hypersensitivity reaction.

- **Aetiology:**

  1) Infection:
     - Viral: hepatitis B.
     - Bacterial: Strept. (group A).
     - TB & leprosy.

  2) Drugs:
     - Aspirin.
     - Phenothiazine.
     - Sulphonamide.

  3) Diseases:
     - Connective tissue diseases: SLE & Rh. Arthritis.
     - Lymphoma.
     - Inflammatory bowel disease.

  4) Idiopathic:
     - Henoch-Schönlein purpura.
     - Hypersensitivity angitis.
     - Urticarial vasculitis.